

IN THE SPECIFICATION:

Amended page 1, line 1, delete the "Description"

Amended page 1, after line 2 and before line 3, insert centered on a separate line and on a following separate line at the left side the following heading and sub-heading:

BACKGROUND OF THE INVENTION

Q1 1. Field of the Invention

Amended page 1, after line 8 and before line 9, insert at the left side the sub-heading:

Q2 2. Description of the related Art

Amended page 1, delete the paragraph beginning on line 24, and substitute with the following:

U.S. Patent No. 5,018,588 describes a tie rod drill for the insertion of ground tie rods, such as are used in the civil engineering industry to secure embankments or pillar walls.

Q3 The tie rod drill disclosed has a tracklaying gear on which a drill upper part is mounted by means of a live ring. Arranged on this upper part is a mast, to which a slide is fastened, on which in turn drill mount is mounted via a pivot device and a hydraulic cylinder. This drill mount consists of a supporting frame, a drill drive and two grippers, in which a drilling pipe can be retained.

Amended page 2, after line 14 and before line 15, insert centered on a separate line the following heading:

94 SUMMARY OF THE INVENTION

Amended page 2, delete the paragraph beginning on line 15, and substitute

95 It is an object of the present invention to propose a drilling machine for exploratory and productive wells, a drilling rig and a method whereby decisive cost savings can be achieved with regard to logistical and personnel costs.

Page 7, delete the paragraph beginning on line 26, and substitute:

96 The text that follows provides details of a specific embodiment of the invention.

Page 8, delete the paragraph beginning on line 11, and substitute:

97 A further embodiment envisages installing a small winch in the lower region of the base in order also to pull down the receiving frame of the top drive, especially if the installation of a drawworks as a linear drive is intended. The cable of this small winch is fixed to the lower part of the receiving frame or guided downward over a return roller fixed on the receiving frame and secured. By means of this winch, workover tasks, drilling operations and also snubbing operations (or pipe installation) can be performed more simply.

Page 9, delete the paragraph beginning on line 1, and substitute:

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Also described is a drilling rig, which is characterized in that two or more drilling machines are arranged to be alternately movable or rotatable or pivotable over the well center. The advantage of such a design resides in the fact that one drilling machine performs the actual drilling operation and the other is supplied with a pipework for that operation. As a result of this the drilling time is reduced and cost-effectiveness optimized.

Page 10, delete the paragraph beginning on line 5, and substitute:

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The top drive is in the upper position and the multifunctional gripper at the same height as the pipes, for example, lie on the stands. The pipe is rolled over the base. Then, in the lying position, the pipe is gripped by the multifunctional gripper and thus locked. Subsequently, by means of the top drive and the handling device, which is located between the top drive and a lower region of the base, the upper connection to the pipe is produced. Subsequently, the base is raised into the vertical position by means of the lifting apparatus and the lower connection between the pipe on the base and the pipe located in the well is made. Optionally, when this position is reached, the base can be locked on a steel structure.

Page 10, delete the paragraph beginning on line 23, and substitute:

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The connection between the top drive shaft and pipe is produced, in particular, when pipes are set down during drilling. During handling pipe steps involved in installation

and removal operations, the pipe can also be merely suspended in the elevator which is arranged below the top drive, since the thread of the pipe is particularly protected from damage and the operations can be performed more quickly.

Page 11, delete the paragraph beginning on line 21, and substitute:

-A further advantageous embodiment of the method according to the invention is illustrated by means of a rigid base. The pipe is removed from the pipe rack by means of the rail-borne pipe handling system and moved toward the rig floor. The top drive is located in the upper position.

Page 13, delete the paragraph beginning on line 28, and substitute:

Examples of embodiments of the rigid version with one drilling machine and a rail-borne pipe handling system and the rotatable version with two drilling machines and pipe handling system (e.g., a vertical pipe handler/horizontal pipe handler) are explained hereinafter.

Page 14, before line 1, centered on a separate line insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS-

Page 14, delete the paragraph beginning on line 1, and substitute:

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T0220 9000260
- In the drawings:

Fig. 1 shows the lateral view of the base;

Fig. 2 shows the front view of a base;

Fig. 3 shows on enlarged scale the plan view of the upper part of a rotatable base;

Fig. 4 shows the lateral view of a drilling machine with a base (rigid) arrangement;

Fig. 5 shows the front view of the drilling rig;

Fig. 6 shows the plan view of a rigid drilling machine;

Fig. 7 shows a rail-borne pipe handling device (for horizontal or vertical racks);

Fig. 8 shows a frontal view of a drilling machine and a pipe handling device and a pipe receiving unit disposed alongside the drilling rig;

Fig. 9 shows the plan view of a drilling rig with two drilling machines; and

Fig. 10 shows a lateral view with two drilling machines with live rings.

Page 14, after line 17 and before line 18, insert centered on a separate line the following heading:

9/15
DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

Page 14, delete the paragraph beginning on line 18 and substitute:

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In Figs. 1, 2, 4, 5, 6, 8, 9 and 10, the receiving frame 4 with top drive 2 and handling device 5 or the pipe handling device 23 are shown in two different positions, one

position in each case being shown in broken lines. In the broken-line illustration of the

receiving frame and the top drive, the return roller 11 is not shown. If

Page 14, delete the paragraph beginning on line 25 and bridging over to page 15, line 8, and substitute:

- Fig. 1 shows the lateral view of the base 1 with the top drive 2, the linear guide 3 attached to the base, the receiving frame 4 for the top drive, the handling device below the top drive 5 and the elevator for pipe acceptance. Below the top drive is optionally arranged a screwing and securing device, in order to screw a pipe feed in by means of the handling device fixedly to the shaft of the top drive, or, for example during the removal of the pipe, to break the connection again between top drive and pipe. Struts 42 of the base 1 are indicated, these improving the statics of the base. -

Page 15, delete the paragraph beginning on line 40, and substitute:

Fig. 2 shows the frontal view of the base 1 with the top drive 2, the receiving frame 4, the handling device 5 and the elevator 6.

Page 16, delete the paragraph beginning on line 12, and substitute:

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- Fig. 3 shows the plan view of a rotatable base 1 with the linear guide 3, in which the receiving frame 4 is guided by means of guide rollers with the top drive 2 mounted thereon. -

Page 16, delete the paragraph beginning on line 20, and substitute:

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- Fig. 4 shows the lateral view of the drilling machine with a base according to Fig. 1. -

Page 17, delete the paragraph beginning on line 18, and substitute:

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- Fig. 5 shows the frontal view of the drilling rig with the base 1 corresponding to Fig. 2, the live ring 9 having been replaced by an intermediate piece 27. -

Page 17, delete the paragraph beginning on line 34, and substitute:

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- Fig. 6 shows the plan view of the rigid drilling machine on the rig floor 21.

In the plan view, the lateral arrangement of the iron roughneck 20 is identifiable. The pipes are removed from the vertically standing pipe boxes 26 by the rail-borne pipe handling system 23, which runs on the rails 24, and passed to the drilling machine. Any desired storage capacity can be achieved by this arrangement of the vertical pipe boxes 26. -

Page 18, delete the paragraph beginning on line 7, and substitute:

Q23 Fig. 7 shows the rail-borne handling device 23. The possibility exists of storing a stock of pipes 25 in vertically standing (or horizontally) lying pipe boxes 26 and removing them therefrom.

Page 18, delete the paragraph beginning on line 31, and substitute:

Q24 Fig. 8 shows the frontal view of the drilling rig in section, with two bases 1 and the associated components, as shown in Fig. 2, one of the bases not being shown as a result of the section. This drilling rig is equipped, in this embodiment, with one live ring 9 in each case, below the base 1, in order to pivot the drilling machine alternately over the well center.

Page 19, delete the paragraph beginning on line 4, and substitute:

Q25 Fig. 9 shows the plan view of the drilling rig according to the invention with two drilling machines 40.

Page 19, delete the paragraph beginning on line 20, and substitute:

Q26 Fig. 10 shows the lateral view with the twin drilling machines 40, 41 according to Fig. 1 (pivoted outward, 41) and Fig. 2 (pivoted inward, 40) which are fixed on the two live rings 9 on the rig floor 21.